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REISSUE APPLICATION FEE TRANSMITTAL FORM

Docket Number (Optional)

68268.000005

Application as Filed - Part 1

	(1) Claims in Patent	(2) Claims Filed in Reissue Application	(3) Number Extra	Small Entity		Other than a Small Entity	
				Rate (\$)	Fee (\$)	Rate (\$)	Fee (\$)
Total Claims (37 CFR 1.16(i))	(A)	(B)	****	=	x	=	
Independent Claims (37 CFR 1.16(h))	(C)	(D)	*	=	x	=	
Application Size Fee (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).					or	
			Filing Fee (37 CFR 1.16(e))				
			Search Fee (37 CFR 1.16(n))				
			Examination Fee (37 CFR 1.16(r))				
			Total Filing Fee				

Application as Amended - Part 2

	(1) Claims Remaining After Amendment	(2) Highest Number Previously Paid For	(3) Extra Claims Present	Small Entity		Other than a Small Entity	
				Rate (\$)	Fee (\$)	Rate (\$)	Fee (\$)
Total Claims (37 CFR 1.16(i))	*** 257	MINUS	** 243	=	14	x	=
Independent Claims (37 CFR 1.16(h))	*** 25	MINUS	***** 35	=	0	x	=
Application Size Fee (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).					or	
			Total Additional Fee				\$ 700.00

* If (D) is less than (C), enter "0" in column 3. For reissues filed on or after Dec. 8, 2004, enter (D) minus 3 or "0" if (D) is less than 3.

** If the "Highest Number of Total Claims Previously Paid For" is less than 20, enter "20" in this space.

*** After any cancellation of claims.

**** If (A) is greater than 20, enter (B) - (A); if (A) is 20 or less, enter (B) - 20. For reissues filed on or after Dec. 8, 2004, enter (B) - 20.

***** For amendments filed on or after Dec. 8, 2004, enter the "Highest Number of Independent Claims Previously Paid For."

For amendments filed prior to Dec. 8, 2004, enter the higher of the Number Previously Paid or Number of Independent Claims in Patent.

☐ Applicant claims small entity status. See 37 CFR 1.27.☐ Please charge Deposit Account No. _____ in the amount of _____.
A duplicate copy of this sheet is enclosed.☒ The Director is hereby authorized to charge any additional fees under 37 CFR 1.16 or 1.17 which may be required, or credit any overpayment to Deposit Account No. 50-0206. A duplicate copy of this sheet is enclosed.☒ A check in the amount of \$ 1,790.00 to cover the filing/additional fee is enclosed.☐ Payment by credit card. Form PTO-2038 is attached. WARNING: Information on this form may become public. Credit card information should not be on this form. Provide credit card information and authorization on PTO-2038.

Brian M. Buroker

Typed or printed name

Date

39,125

Registration Number, if applicable

202-955-1500

Telephone Number

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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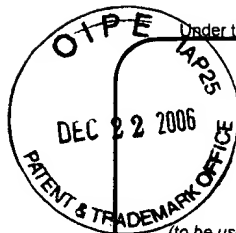
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PTO/SB/21 (09-06)

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

72

Application Number	09/579,630
Filing Date	May 26, 2000
First Named Inventor	Robert McKinnon, Jr.
Art Unit	3727
Examiner Name	N. Eloshway
Attorney Docket Number	5925.36003

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Appellant's Brief with Evidence Appendix and Claims Appendix Return Post Card
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Decker, Jones, McMeekin, McClane, Hall & Bates		
Signature			
Printed name	Geoffrey A. Mantooth		
Date	December 19, 2006	Reg. No.	32,042

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Typed or printed name	Geoffrey A. Mantooth	Date	December 19, 2006

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Docket No. 5925.36003



PATENTS
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In Re Patent Application Of :
Robert McKinnon, Jr. : Examiner: N. Eloshway
Serial No. 09/579,630 : Group Art Unit: 3727
Filing Date: May 26, 2000 :
"METER BOX LID" :
-----X

APPELLANT'S BRIEF

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450


Dear Sir:

This is an appeal from the rejection of the Examiner dated May 8, 2006.

Attached to this Brief is a Claims Appendix as well as an Evidence Appendix.

CERTIFICATE OF MAILING

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Geoffrey A. Mantooth, Reg. No. 32,042

Applicant previously filed a Notice of Appeal and Appellant's Brief in this application. The fee for the brief was thus previously paid. Please apply that fee to this brief. If any additional fees are required, or overpayments made, please charge or credit deposit account number 23-2770.

Real Party in Interest

The real party in interest is DFW Plastics, Inc.

Related Appeals and Interferences

Applicant previously filed a Notice of Appeal and Appellant's Brief in this application.

In the Examiner's Answer new grounds of rejection were raised. Applicant filed a Reply to the Examiner's Answer and a Request to Reopen Prosecution. That Reply contained an amendment, which amendment was entered. Prosecution was reopened. The office action maintained the previous rejections of the claims, except with respect to claims 42 and 44, which were objected to.

There are no other related appeals or interferences.

Status of Claims

The status of the claims is as follows:

Claims rejected: 1-7, 9, 12-13, 15-35, 37, 39-40 and 58-75.

Claims allowed: none.

Claims cancelled: 8, 10-11, 14, 36, 38, 41, 43, 45-57.

Claims objected to: 42, 44.

All of the rejected claims are being appealed.

Status of Amendments

There are no amendments to the claims after the rejection of May 8, 2006.

Summary of Claimed Subject Matter

Referring to the Specification, all of the claims relate to a lid 21, 21M, 61, 61M for a utility box, such as a water meter box. (See page 1, Field of the Invention). The lid is solid plastic, compression molded (page 2, lines 6-8: Fig. 10). The lid is very strong, capable of withstanding at least 8,000 pounds load (page 4, lines 25-31).

It is believed that the lid of the invention is the first all plastic lid that is capable of replacing cast iron and concrete lids. Cast iron and concrete lids are very strong and are suitable for use in roadways where vehicle traffic can roll over the lids without breaking. Prior art plastic lids simply are not strong enough.

When confronted with the problem of making an all plastic utility box lid that was comparable in strength to cast iron and concrete lids, the inventor, Mr. McKinnon, started with the existing plastic lid (which was too weak) and increased the amount of plastic to make it stronger. Mr. McKinnon made a solid plastic lid. Mr. McKinnon discovered that a solid plastic lid had problems, namely with warpage, bubbles and curing of the

plastic. McKinnon solved the warpage and bubbles problem by using compression molding. He solved the curing problem by taking the unobvious step of reducing the amount of plastic to form recesses.

The lid has an upper side 21U, a lower side 21L and an outer edge 21A, 21B, 21C, 21D (see page 2, lines 8-12; Figs. 1 and 2). The lid has at least one recess 23 in the lower side 21L (page 2, lines 12-14; Fig. 2). The recess 23 enhances the curing of the solid plastic in the lid and thereby enhancing the strength of the lid (page 2, line 27; see also page 2, line 37-page 3, line 10). The recess is spaced from the outer edge (Fig. 2).

The above paragraph describes claim 72. Mr. McKinnon found a balance between adding plastic to make a stronger lid and reducing the amount of plastic to solve the curing problem. The balance lies in characteristics of the recesses. In general, the other claims differ from claim 72 in characterizing the recesses, such as by spacing, shape and depth.

Claims 1 and 58 provide that there are plural recesses. The total area of the lower surface 21L is greater than the total area of the edges that surround the recesses (page 2, lines 34-36; Figs. 1, 2, 9 and 10). Thus, the lower surface 21L is not populated too densely with the recesses 23, nor are the recesses so large as to reduce the lower surface in area to an insignificant amount.

Claims 5, 59 and 60 provide that the plural recesses 23 each have parallel elongated edges L4 (see Fig. 9) and shorter edges W1, W2 (see Fig. 10). The elongated edges of the recesses are greater than one-half the dimension 21A of the lid along which the elongated edges of the recesses

extend. Thus, the recesses 23 are not too short and extend over half the length of the lid dimension.

Claim 18 provides that the lid outer edges have a first pair of oppositely facing outer edges 21A, 21C (Fig. 1) and a second pair of oppositely facing outer edges 21B, 21D. One of the recesses 23 has elongated edges L4 (see Fig. 9) and shorter edges W1, W2 (see Fig. 10) (page 2, lines 34-36). The elongated edges of the recesses are greater than one-half of the dimension 21A of the lid along which the elongated edges of the recesses extend.

Claims 23, 31, 61 and 65 provide that the recesses 23 have a triangular transverse cross-section (Figs. 2 and 10). Claim 23 also provides that the recesses have spaced apart elongated edges and spaced apart shorter edges and that the lower surface 21L dimensions between the two recesses are greater than the dimensions of the short edges of the recesses.

Claims 26 and 63 also have a recess 23 with a triangular transverse cross-section. The lengths of the elongated edges of the recess are equal to a substantial portion of the length of the dimension of the lower side of the lid.

Claims 25 and 62 provide that one recess 23 has spaced apart elongated edges and spaced apart shorter edges. Another recess 27, 29 (Fig. 2) has dimensions in two transverse directions that are greater than the shorter edge dimension of the first recess.

Claim 66 provides that the recesses 23 are no deeper than two-thirds the thickness of the member, between the upper and lower sides (page 2, lines 34-36; Figs. 1 and 10).

Claim 69 provides that the recesses are spaced apart from each other a distance that is greater than the depth of the recesses (page 2, lines 34-36; Figs. 1, 2, 9 and 10).

Claim 71 provides that the lid has a thickness of at least one and one-half inches (page 2, lines 34-36).

Grounds of Rejection Reviewed on Appeal

A. Claims 5, 6, 13, 18, 19, 25, 39, 40, 59, 60, 62, 69, 72, 74 and 75 are rejected under 35 USC §102(b) as being anticipated by Hauffe.

B. Claims 1, 3, 4, 9, 12, 15-17, 37 and 58 are rejected under 35 USC §103(a) as being unpatentable over Hauffe in view of Goodwin.

C. Claim 2 is rejected under 35 USC §103(a) as being unpatentable over Hauffe in view of Goodwin and further in view of Bonnema.

D. Claim 7 is rejected under 35 USC §103(a) as being unpatentable over Hauffe in view of Bonnema.

E. Claims 20-24, 26-35, 61 and 63-65 are rejected under 35 USC §103(a) as being unpatentable over Hauffe.

F. Claims 66-68, 70, 71 and 73 are rejected under 35 USC §103(a) as being unpatentable over Hauffe.

G. Claims 5, 6, 13, 18-35, 39, 40 and 59-75 are rejected under 35 USC 103(a) as being unpatentable over Hauffe in view of Marthaler.

H. Claims 1, 3, 4, 9, 12, 15-17, 37 and 58 are rejected under 35 USC 103(a) as being unpatentable over Hauffe in view of Goodwin and Marthaler.

I. Claim 2 is rejected under 35 USC 103(a) as being unpatentable over Hauffe in view of Goodwin, Marthaler and Bonnema.

J. Claim 7 is rejected under 35 USC 103(a) as being unpatentable over Hauffe in view of Marthaler and Bonnema.

Argument

A. The Examiner erred in rejecting claims 5, 6, 13, 18, 19, 25, 39, 40, 59, 60, 62, 69, 72, 74 and 75 under 35 USC §102(b) as being anticipated by Hauffe.

Hauffe teaches a plastic meter box 11 and a corresponding plastic lid 31. The lid 31 has recesses, best shown in Fig. 2. Hauffe focuses on providing a lid with a reader hatch 49 that can be opened to look inside the box without removing the whole lid 31. The lid 31 is locked in place by latch 41. Hauffe teaches that the lid is injection molded. Specifically, Hauffe refers to two patents, 3,268,636 and 3,436,446, both of which teach injecting a foamable plastic into a mold by a piston (col. 2, lines 54-62).

Hauffe has no teaching of how strong the lid is. Hauffe teaches the same or similar type of lid as McKinnon, U.S. Patent No. 4,163,503, discussed in the specification (page 1) of the subject application and also discussed by the inventor in his declaration of February 12, 2004. As the inventor, Robert McKinnon, Jr., states these type of prior art lids have a load

strength of about 1,200 pounds, well below the strength of 8000 pounds provided by all of the claims (9000 pounds in claim 75). (See Declaration of Robert McKinnon, Jr., February 12, 2004, paragraph 7 and Declaration of Robert McKinnon, Jr., February 10, 2006, paragraph 9.) In addition, the claims provide that the lid is compression molded; Hauffe uses injection molding. As stated by Mr. McKinnon in his Declaration of February 12, 2004, compression molding squeezes out bubbles and makes a stronger lid (paragraphs 8, 9).

Thus, Hauffe fails to teach or suggest several elements of all of the claims, namely a lid capable of withstanding a load of at least 8000 pounds and a compression molded lid (or a lid with compressed plastic).

With regard to the limitation of at least 8000 pounds, the Examiner takes the position that claims directed to an apparatus must be distinguished from the prior art in terms of structure, rather than function. Applicant respectfully disagrees with the Examiner's position. *In Re Schreiber*, 128 F.3d 1473, 1478 44 USPQ 2d 1429 (Fed. Cir. 1997) states that a "patent applicant is free to recite features of an apparatus either structurally or functionally." Implicit in *In Re Schreiber* is that functional features can distinguish over prior art in apparatus claims. The Examiner cites *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1469, 15 USPQ 2d 1525, 1528 (Fed. Cir. 1990) in support. However, the Examiner errs by mischaracterizing *Hewlett-Packard*. The court in *Hewlett-Packard* discussed whether a pinch roller assembly in a plotter was obvious over a prior art knurled wheel. The pinch roller had a "rough surface" with "a random pattern, size and height of rough spots." The court found that this

was a reasonable description of grit and therefore distinguished over the prior art. The court said that an apparatus claim covers what a device is and not what a device does. The court went on to say that “An invention need not operate differently than the prior art to be patentable, but need only be different.” The Examiner interprets this as a prohibition against functional limitations, but the court’s language clearly permits functional language. Thus, *Hewlett-Packard* is in accord with *In Re Schreiber*; an applicant can rely on operational differences to distinguish over the prior art, but is not forced to do so.

As to any inherent teaching of Hauffe that its lid can withstand a load of 8000 pounds, Mr. McKinnon clearly rebuts such a suggestion. Mr. McKinnon states that the injection molded lids such as Hauffe can only withstand about 1200 pounds of load. (Declaration of Robert McKinnon, Jr., February 10, 2006 paragraph 9). 1200 pounds is only 15% of 8000 pounds. Thus, the Hauffe lid does not even come close to the claimed invention. The Hauffe prior art lid is incapable of performing the function of withstanding a load of at least 8000 pounds.

The Examiner also states the limitation that the lid is capable of withstanding a load of at least 8000 pounds is not supported by the claimed structure, as the type of plastic and dimensions are required. Applicant respectfully disagrees that plastic type and dimensions are required. *In Re Schreiber* allows features to be recited functionally.

With regard to the limitation of compression molding, the Examiner contends that compression molding is a process limitation that adds no patentable distinction to the claim. Applicant respectfully disagrees.

“Compression molded” is a structural limitation, not a process limitation. See *3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir. 2003) (words of limitation that can connote with equal force a structural characteristic of the product or a process of manufacture are commonly and by default interpreted in their structural sense, unless the patentee has demonstrated otherwise. The court interpreted “two or more superimposed embossed patterns” as a structural limitation, not a process limitation). Of particular interest is *Hanzai v. United States Int’l. Trade Comm’n.*, 126 F.3d 1473, 1479 (Fed. Cir. 1997) (concluding that “chemically engraved” was not a process term). See also *Vanguard Prods. Co. v. Parker Hannifin Corp.*, 234 F.3d 1370, 1372 (Fed. Cir. 2000) (holding that the claim term “integral” describes a structural relation, not the particular manufacturing process related in the specification).

Because “compression molded” is a structural limitation, then it should be given due consideration in determining the overall patentability of the claims.

Hauffe teaches an injection molded lid. Mr. McKinnon states that an injection molded lid of all plastic is inadequate; the lid requires glass fibers or structural foam (see Declaration of Robert McKinnon, Jr. February 10, 2006, paragraph 4).

Furthermore, claims 59-75 provide that the plastic is compressed. “Compressed plastic” is a structural limitation, not a process limitation.

As stated in Mr. McKinnon’s declaration of February 12, 2004, paragraph 9, compression molding squeezes out bubbles from the plastic. As recognized by the court in *Hewlett-Packard, supra* it was functional

language (such as “rough surface”) can describe structure and can distinguish over prior art. Applicant’s use of compression molding describes plastic with bubbles squeezed out.

Claims 5, 18, 59, 60 also provide that the length of the elongated edges of the recesses are longer than one-half a given dimension of the member. This is illustrated in Figs. 2 and 9 of the subject application where the recesses 23 have a long side L4 and a short side W1, W2. The long side L4 is more than one-half the length of side 21A of the lid. The recesses of Hauffe lack this dimensional requirement in that the recesses are not long or wide enough. In fact, it takes four recesses to extend in either dimension of the Hauffe lid, as shown in Fig. 2 of Hauffe. Each Hauffe recess is less than one-fourth the length or width of the lid. The length of the recess edge is noted in the claims 5, 18, 59 and 60 because the recesses enhance the curing of the plastic in this solid, strong lid. (See Declaration of Robert McKinnon, Jr., February 12, 2004, paragraphs 9 and 10.)

In addition, claims 19, 25, 62 provide two recesses of different shapes and dimensions. One recess has long and short edges. The other recess has transverse edges that are longer than the short edges of the one recess (See for example, Fig. 2 of the subject application, showing one recess 23 and another recess 27, 29.) The recesses 27, 29 are useful for receiving meter-reading equipment. Hauffe does not teach this and instead shows recesses of equal size.

Furtherstill, claim 69 provides that the recesses have a depth and at least some of the recesses are spaced apart from each other a distance greater than the depth. For example, in Fig. 10, the triangular recesses have a depth

of H2, and are spaced apart from each other by a distance of W3. W3 is greater than H2. Applicant has enclosed in the Evidence Appendix a marked up copy of Hauffe, Figs. 1 and 2, showing the corresponding dimensions H2 and W3. As can be seen, W3, the spacing between the recesses, is smaller, not larger, than H2, the depth of the recesses. Thus, Hauffe shows the opposite of the claimed invention.

By providing recesses that are deep and closely spaced, Hauffe reduces the strength of the lid.

Furtherstill, in claim 74, the recess is for remote reading equipment. Hauffe does not teach this.

Claim 75 provides that the lid can withstand a load of at least 9,000 pounds. Hauffe does not teach this.

B. The Examiner erred in rejecting claims 1, 3, 4, 9, 12, 15-17, 37 and 58 under 35 USC §103(a) as being unpatentable over Hauffe in view of Goodwin.

Mr. McKinnon, the inventor, was familiar with a Hauffe-type utility box lid when he began the development of a strong plastic lid. Mr. McKinnon's father had obtained a patent on a similar lid and Mr. McKinnon worked in the family business that made such lids (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraphs 2, 4 and 7). Mr. McKinnon's first step in the development was to increase the amount of plastic to make a stronger lid and use a molding process besides injection molding (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraph 8; Declaration of Robert McKinnon, Jr., February 10, 2006, paragraphs 3 and

4). The molding process was rotational molding. Mr. McKinnon's father had previously obtained a patent on a durable and strong meter box made by rotational molding. However, in making the lid, Mr. McKinnon encountered problems of warpage and bubbles. He solved those problems by changing the molding process from rotational to compression molding (see Declaration of Robert McKinnon, Jr., February 10, 2006, paragraph 9). However, Mr. McKinnon encountered a new problem in that the plastic was not fully cured. To solve the curing problem, Mr. McKinnon, who has at least ordinary skill in the art, reduced the amount of plastic in the lid by forming recesses (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraph 10). Reducing the amount of plastic is unobvious to one with ordinary skill in the art. One with ordinary skill in the art would think that increasing the amount of plastic would make the lid stronger, while reducing the amount of plastic would make the lid weaker.

With the background of the development having been discussed, the necessary obviousness framework will now be discussed. Certain factual inquiries are required in an obviousness determination under 35 USC §103(a). These factual inquiries, discussed in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) are summarized as follows:

1. determining the scope and content of the prior art;
2. determining the differences between the prior art and the claims in issue;
3. determining the level of ordinary skill in the art.

In order to make a *prima facie* showing of obviousness, the Examiner must show that there is some suggestion or motivation to combine or modify

the references, that there is a reasonable expectation of success and that the references teach or suggest all of the claim limitations, MPEP 706.2(j), *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. and Inter. 1985).

Regarding the first *Graham* inquiry, the scope and content of the prior art, the Examiner has cited Hauffe and Goodwin. Hauffe has been discussed above. In contrast to Hauffe's injection molded lid, Goodwin teaches a hollow lid that is made by blow molding, rotational molding or a thin sheet vacuum process (col. 1, lines 49-50). Goodwin teaches two kinds of recesses, namely "upwardly extending ribs B" and reinforcing cups 22 (see Fig. 2). The reinforcing cups contact the upper layer 10a of the lid (see Fig. 7). It is difficult to determine if the area of the recesses is less than the remaining area of the surface 11a (See Figs. 2 and 4).

Still another patent is found in the prior art. This is Lang, U.S. Patent No. 5,123,776, cited by Applicant. Although not relied upon by the Examiner, nevertheless, Lang is evidence of the prior art. Lang may show a lid where the area of the recesses 35 (Fig. 4) is less than the area of the remaining surface. The Lang lid has a plastic outside 11, 12 and a cement 50 fill material on the inside.

Regarding the second *Graham* inquiry, determining the differences between the prior art and the claims that issue, the claimed invention as a whole must be considered. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983). In addition to providing a compression molded all-plastic lid capable of withstanding a load of at least 8000 pounds, claims 1 and 58 provide that the lower surface total area is greater than the total area of the recesses (as defined by the recess edges).

Thus, the recesses 23 are not too large or too many so as to diminish the lower surface area. This is because the lid is a solid lid and the recesses are to cure the plastic. In Hauffe, the opposite is true; the total area of the lower surface is much smaller than the recess area (see marked-up Fig. 2 of Hauffe in the Evidence Appendix). The lower surface of Hauffe's lid is shown by the bottoms of ribs (W3).

Regarding the third *Graham* inquiry, the level of ordinary skill in the art, no determination by the Examiner has been made. However, Applicant has provided evidence on the skill in the art. Mr. McKinnon, the inventor, has at least ordinary skill in the art by virtue of his experience in plastics manufacturing (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraphs 3-4).

The Examiner has not made a *prima facie* of obviousness with regard to claims 1 and 58. The Examiner states that, "It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the lid of Hauffe et al. with smaller recesses such that the area of the lower surface is greater than the total area surrounded by the outer edges of the recesses, as taught by Goodwin, in order to increase the strength of the lid." Goodwin shows a hollow lid; hollow lids are known to be weaker than solid lids. Why one of ordinary skill in the art would look to a hollow lid to strengthen a solid lid is unknown.

Furthermore, Goodwin provides recesses 22 for strength precisely because the lid is hollow (col. 3, lines 25-30). The recesses 22 allow the upper and lower walls 10a, 11a of the hollow lid to contact each other and

provide structural strength. One of ordinary skill in the art would not look to Goodwin to modify and strengthen a solid lid.

Furtherstill, it is not clear if Goodwin actually does teach the area of the lower surface 11 being greater than the total area surrounded by the outer edges of the recesses 22, B. Goodwin makes no mention of it. Fig. 4 shows a bottom view of the lid. One can take a ruler and measure the area of the recesses and the area of lower surface of the Goodwin lid; doing so produces a result that shows the two areas are about the same. But, why would one with ordinary skill go to all the trouble to measure and calculate the areas of Goodwin's Figs. 2 and 4? Not to increase the strength of the lid (Goodwin teaches using reinforcing cups 22 in a hollow lid), as the Examiner states. Hauffe and Goodwin do not teach the claimed invention nor do they provide a motivation to modify the Hauffe lid as claimed by Applicant.

The mere fact that the prior art may be modified in a manner suggested by the Examiner does not make the modification obvious, unless the prior art suggests the desirability of the modification. *In re Fritch*, 972 F.2d 1260, 23 USPQ 2d 1780 (Fed. Cir. 1992).

Even supposing that one with ordinary skill in the art wanted to make the Hauffe lid stronger, and that he or she may well make the ribs thicker, there is nothing in the references to suggest that the ribs of a modified Hauffe lid should be so thick as to have a total surface area that is greater than the surface area of the recesses. At most, Goodwin teaches that its ribs correspond with recesses in order to stack lids.

The lid of Lang actually leads away from Applicant's invention. Lang shows a lid for a manhole, which lid is strong and heavy. In fact, one of

Lang's goals is to make a lid so heavy that children have difficulty moving it. The lid has recesses for receiving the bottom ends 28 of the handles. The lid is also mostly cement, contained in a plastic jacket. Thus, Lang teaches one with ordinary skill in the art that to make a heavy and strong lid, use either jacketed cement or cast iron. Plastic as a lid material is only suitable for the jacket.

Furthermore, there is no evidence of a reasonable expectation of success in modifying Hauffe as proposed by the Examiner. The combination of ribs from a hollow lid (Goodwin) with an injection molded lid (Hauffe) presents technical challenges not addressed by the Examiner.

Even assuming, arguendo, that a *prima facie* showing of obviousness has been shown, Applicant has successfully rebutted any such showing with evidence.

There is no suggestion to combine the references. The inventor, Mr. McKinnon, is familiar with lids of the same type as Hauffe (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraph 7) and also has reviewed patents similar to Goodwin, which patents teach hollow lids (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraphs 11-14). Mr. McKinnon, who has at least ordinary skill in the art, would not look to hollow lids to design a utility box lid. Based on his experience in plastics manufacturing, he would not look to double wall lid patents to design a compression molded lid.

Furthermore, there is no reasonable expectation of success. As stated by Mr. McKinnon, he was familiar with injection molded, ribbed lids before he began working on the invention, and knew that they were limited in

strength (see Declaration of Robert McKinnon, Jr., February 12, 2004 paragraph 7). That is why he ultimately used compression molding (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraphs 9-10).

Because the Examiner has not made a *prima facie* case of obviousness, or to the extent the Examiner has made a *prima facie* showing of certain elements, that showing has been rebutted by factual evidence, claims 1, 3, 4, 9, 12, 15-17, 37 and 58 are not obvious over the references.

Furthermore, claim 3 is dependent upon claim 1 and further provides that the lengths of the elongated edges of the recesses are greater than one-half of the dimension of the lid. As discussed above with respect to claim 5, Hauffe does not teach this.

Furtherstill, claim 17 provides that a recess in an upper surface is partially aligned with a recess in the lower surface (see for example, Fig. 10). While Goodwin shows aligned recesses, Goodwin is a hollow lid that derives strength from two walls contacting each other. One with ordinary skill in the art would not look to Goodwin for teachings on positioning recesses in a solid compression molded lid.

C. The Examiner erred in rejecting claim 2 under 35 USC §103(a) as being unpatentable over Hauffe in view of Goodwin and further in view of Bonnema.

Bonnema shows a lid with wedges. Claim 2 is dependent upon claim 1, the patentability of which has been discussed above.

D. The Examiner erred in rejecting claim 7 under 35 USC §103(a) as being unpatentable over Hauffe in view of Bonnema.

Claim 7 is dependent upon claim 5, the patentability of which has been discussed above.

E. The Examiner erred in rejecting claims 20-24, 26-35, 61 and 63-65 under 35 USC §103(a) as being unpatentable over Hauffe.

In addition to a plastic compression molded lid capable of withstanding at least 8000 pounds, claims 20-24, 26-35, 42, 61 and 63-65 also provide that the recess is triangular in cross-section. This shape is useful in curing the plastic of the compression molded lid that can withstand a high weight. Also, as stated in Mr. McKinnon's Declaration of October 5, 2001, the slanted angular surfaces of the elongated recesses provide support for loads and make a very strong plastic lid. (See last sentence of first paragraph of Declaration of October 5, 2001.) Hauffe does not teach or suggest such recesses. The Examiner's contention that the cross-section would give a more decorative appearance does not present a *prima facie* case of obviousness, as the reference does not teach or suggest the modification, nor is there any suggestion in Hauffe to make this modification. The recess is in the lower surface of the lid. When in use, the recess faces inside the utility box and is therefore invisible. Also, the use of angular recesses uses more plastic and adds to the expense of the lid, when compared to the recesses of Hauffe.

Claims 21, 24, 30, 33, 34 are dependent upon claims 20, 23, 26 and 31 and further provide two recesses of different shapes and dimensions. As discussed above with respect to claim 19, Hauffe does not teach this.

Claims 28, 29, 35 are dependent claims that further provide that the length of the elongated edges of the recesses are greater than one-half the dimension of the lid member. As discussed above with respect to claim 5, Hauffe does not teach this.

Claim 61 provides that the recesses are closer to the outer edge of the lid than to each other. Hauffe has no teaching about this, other than what is shown in the drawings. The ribs are of equal width.

F. The Examiner erred in rejecting claims 66-68, 70, 71, and 73 under 35 USC §103(a) as being unpatentable over Hauffe.

In addition to a compressed plastic lid capable of withstanding at least 8000 pounds, claim 66 and its dependent claims provide that the recesses have a depth that is no greater than two-thirds of the thickness between the member upper and lower sides. Again, the recesses of Applicant's invention are for curing a solid plastic compression molded lid, while still maintaining high strength. The recesses of Hauffe have a depth of 5/6 the overall thickness (using Fig. 1). That is to say that the recesses of Hauffe are deeper than the claimed invention. Hauffe has no mention of plastic curing. The thin ribs of a Hauffe lid would not present a curing problem. The preferred use of foamed plastic by Hauffe further leads one away from a curing problem. The Examiner does not present a *prima facie* case of obviousness, as the reference does not teach or suggest the modification, nor is there any

suggestion in Hauffe to make this modification. One with ordinary skill in the art would not look to Hauffe to obtain relatively shallow recesses.

Nor does Hauffe, with its use of foamed plastic in the preferred and illustrated embodiment, have the curing problem associated with compression molding thick plastic pieces of one and a half inches, as provided in claims 67, 70, 71 and 73. Because there is no suggestion to modify Hauffe, there is no *prima facie* case of obviousness.

Even assuming, arguendo, that a *prima facie* showing of obviousness has been shown, Mr. McKinnon's declaration rebuts any *prima facie* case of obviousness. In his attempts to produce a plastic lid that has the immense strength of cast iron, as one with ordinary skill in the art, Mr. McKinnon initially tried a solid lid with no recesses. When he encountered the curing problem, he tried recesses and realized that instead of weakening the lid, the recesses made it stronger by allowing the plastic to cure. Mr. McKinnon went beyond routine experimentation in attempting to develop a thick compression molded lid that would not warp and that would properly cure. Thus, there was no reasonable expectation of success in modifying Hauffe as proposed by the Examiner.

Because the Examiner has not made a *prima facie* case of obviousness, or to the extent the Examiner has made a *prima facie* showing of certain elements, that showing has been rebutted by factual evidence, the claims are not obvious over the references.

G. The Examiner erred in rejecting claims 5, 6, 13, 18-35, 39, 40 and 59-75 under §35 USC 103(a) as being unpatentable over Hauffe in view of Marthaler.

Marthaler is newly cited since Applicant filed the first Notice of Appeal. Grounds of rejection G-J are substantially similar to grounds of rejection A-F, with the exception that grounds of rejection G-J further cite Marthaler. Marthaler is cited for teaching compression molding.

The Examiner suggests that the Hauffe lid can be modified by compression molding. Applicant disagrees that the prior art teaches or suggests a compression molded lid capable of withstanding a load of 8,000 pounds. As stated by Mr. McKinnon, compression molding was traditionally used to make plastic parts of one-fourth inch (1/4") or less (see Declaration of Robert McKinnon, Jr., February 10, 2006, paragraphs 6-8). A lid with one-fourth inch (1/4") or less is shown by Hauffe. Nothing in Hauffe or in the prior art compression molding teaches making a lid capable of withstanding such a large load as provided in the claims.

The Marthaler reference is contradictory. Even though Marthaler mentions that the housing and lid can be made by different manufacturing processes, the only manufacturing process of any practicality is that of injection molding (see Declaration of Robert McKinnon, Jr., February 10, 2006, paragraphs 9-11). As stated by Mr. McKinnon in his declaration, the other types of molding, blow, thermo and compression, would not be practical for the Marthaler lid because of the undercuts 82, 84 (Fig. 4) and 132 (Fig. 10), and 179 (Fig. 24). Undercuts prevent the use of compression molding because the part cannot be removed from the mold. Marthaler

actually teaches away from compression molding. Thus, one with ordinary skill in the art would not look to modify Hauffe by compression molding, based upon the teaching of Marthaler. In fact, one of ordinary skill in the art would cast a dim eye over relying on Marthaler's teaching of molding other than by injection molding because of the undercuts. Hauffe likewise has undercuts that form dogs 32 (see Fig. 1 of Hauffe). Such dog undercuts prove that the Hauffe lid cannot be made by compression molding. Thus, Marthaler reinforces Hauffe and the prior art utility lids by teaching injection molding to one of ordinary skill in the art.

Furtherstill, neither Hauffe nor Marthaler address the plastic problems encountered by Mr. McKinnon in his development of the lid. Recall that Mr. McKinnon knew that injection molding was not practical in making an 8000 pound expanding lid. (Declaration of Robert McKinnon, Jr., February 10, 2006, paragraphs 3 and 4). The natural tendency to make something stronger is to increase the amount of material. Mr. McKinnon did just that in his early attempts and encountered warpage and bubbles (see Declaration of Robert McKinnon, Jr., February 12, 2004, paragraph 8). He changed to compression molding. This in itself went beyond what one of ordinary skill in the art would do because, before the invention, compression molding had been used on relatively thin products (see Declaration of Robert McKinnon, Jr., February 10, 2006, paragraph 6). Thin plastic products are weaker than thicker products.

Then, Mr. McKinnon encountered a new problem when he compression molded a plastic lid capable of withstanding 8000 pounds, namely curing. Neither Hauffe nor Marthaler address compression molding

thick plastic lids capable of withstanding 8000 pounds. Consequently, neither Hauffe nor Marthaler foresee or discuss the curing problem, much less have a solution for the problem.

The only person to teach a compression molded lid capable of withstanding at least 8000 pounds is the Applicant. The prior art does not teach or suggest the invention. As explained by Mr. McKinnon, merely compression molding a thick lid to withstand a high load is inadequate. The problem of brittleness must be solved. (See Declaration of Robert McKinnon, Jr., February 10, 2006, paragraph 7 and Declaration of Robert McKinnon, Jr., February 12, 2004, paragraphs 9-10). The prior art does not address the problem of brittleness. This is because the prior art has not contemplated such a lid.

Furtherstill, Marthaler does not teach plural recesses. Even if one with ordinary skill in the art were to rely on Marthaler for compression molding a lid, the lid would look like that of Marthaler, without recesses, and only having a side border 120, 122, 124. Because compression molding is like stamping, the fewer the recesses, the more economic the mold.

H. The Examiner erred in rejecting claims 1, 3, 4, 9, 12, 15-17, 37 and 58 under 35 USC §103(a) as being unpatentable over Hauffe in view of Goodwin and Marthaler.

This rejection is the same as ground of rejection B, but with the addition of Marthaler, which has been discussed above.

I. The Examiner erred in rejecting claim 2 under §35 USC 103(a) as being unpatentable over Hauffe in view of Goodwin, Marthaler and Bonnema.

As discussed previously in Ground of Rejection C, claim 2 is dependent upon claim 1, the patentability of which has already been discussed.

J. The Examiner erred in rejecting claim 7 under 35 §USC 103(a) as being unpatentable over Hauffe in view of Marthaler and Bonnema.

Claim 7 is dependent upon claim 5, the patentability of which has been discussed above.

Conclusion

Mr. McKinnon's all plastic compression molded utility box lid is capable of withstanding 8000 pounds and is both novel and unobvious. Hauffe merely represents prior art well known to Mr. McKinnon when he set out to develop the strong plastic lid. Hauffe does not teach or suggest a compression molded lid, or a lid made of compressed plastic, that is capable of withstanding 8000 pounds. Lange teaches that to make a heavy duty, strong lid, it is made of either concrete or cast iron. Plastic is used only as an outer jacket.

One of ordinary skill in the art would not look to Goodwin to modify the Hauffe lid. Goodwin is a hollow plastic lid, not a solid plastic lid. Goodwin's recesses are provided specifically because the Goodwin lid is hollow. There is no suggestion or motivation to provide Goodwin's recesses

with Hauffe's lid. The Marthaler reference is not only contradictory and teaches away from compression molding, but it fails to teach or suggest how to make an all plastic lid capable of withstanding 8000 pounds. As discovered by Mr. McKinnon, developing a strong lid creates problems, which must be solved. Marthaler is silent on the problems and their solutions.

Nor does the prior art references teach or suggest any balance in decreasing the amount of plastic in a lid by appropriately sizing the recesses. For example, the recesses are not too small, not too deep and not too closely spaced together. The prior art references are silent on this because the references never contemplated a strong lid.

Applicant respectfully requests that the rejections by the Examiner be reversed.

Respectfully submitted,



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CLAIMS APPENDIX

CLAIMS

1. A lid for a utility box comprising:

a compression molded solid member made only of plastic material and having spaced apart upper and lower sides and an outer edge,

said outer edge extends around said member next to said lower side and which faces outward of said member,

said lower side comprising a lower surface which is contiguous with said outer edge at least on two opposite sides of said outer edge,

a plurality of spaced apart recesses having outer edges at said lower surface which are spaced from said outer edge of said member such that said lower surface surrounds said outer edges of said recesses,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

each of said recesses comprises a surface which extends from its said outer edges into said member,

the area of said lower surface being greater than the total area surrounded by said outer edges of said recesses,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of said member.

2. The lid of claim 1, wherein:
 - said lower surface is a generally planar surface,
 - said upper side is a generally planar upper surface,
 - a plurality of spaced apart wedges formed on said outer edge of said member which extend outward of said outer edge at said upper surface and taper toward said lower surface.

3. The lid of claim 1, wherein:
 - said outer edges of each of said recesses comprise two spaced apart elongated outer edges and two spaced apart shorter outer edges,
 - said elongated edges of said recesses are generally parallel with each other,
 - said member has a given dimension along which said elongated edges of said recesses extend,
 - the lengths of said elongated edges of said recesses are greater than one half of said given dimension of said member.

4. The lid of claim 3, wherein:
 - said outer edge of said member is rectangular in shape and comprises a first pair of spaced apart edges and a second pair of spaced apart edges with said first pair of edges being transverse to said second pair of edges,
 - said elongated edges of said recesses are generally parallel with said first pair of edges of said member.

5. A lid for a utility box, comprising:

a compression molded solid member made only of plastic material and having spaced apart upper and lower sides and an outer edge,

said outer edge extends around said member next to said lower side and which faces outward of said member,

said lower side comprising a lower surface which is contiguous with said outer edge at least on two opposite sides of said outer edge,

a plurality of spaced apart recesses having outer edges at said lower surface which are spaced from said outer edge of said member such that said lower surface surrounds said outer edges of said recesses,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

each of said recesses comprises a surface which extends from its said outer edges into said member,

said outer edges of each of said recesses comprise two spaced apart elongated outer edges and two spaced apart shorter outer edges,

said elongated edges of said recesses are generally parallel with each other,

said member has a given dimension along which said elongated edges of said recesses extend,

the lengths of said elongated edges of said recesses are greater than one half of said given dimension of said member,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to said upper side when said

lower side is supported by means placed around a perimeter of said member.

6. The lid of claim 5, wherein:

said outer edge of said member is rectangular in shape and comprises a first pair of spaced apart edges and a second pair of spaced apart edges with said first pair of edges being transverse to said second pair of edges,

said elongated edges of said recesses are generally parallel with said first pair of edges of said member.

7. The lid of claim 5, wherein:

said lower surface is a generally planar surface,

said upper side is a generally planar upper surface,

a plurality of spaced apart wedges formed on said outer edge of said member which extend outward of said outer edge at said upper surface and taper toward said lower surface.

8. (Cancelled)

9. The lid of claim 1, wherein:

said lower surface is generally a planar surface.

10-11 (Cancelled)

12. The lid of claim 5, wherein:
the area of said lower surface is greater than the total area surrounded by said outer edges of said recesses.
13. The lid of claim 5, wherein:
said lower surface is a generally planar surface.
14. (Cancelled)
15. The lid of claim 1, wherein:
one of said plurality of recesses comprises two spaced apart elongated edges and two spaced apart shorter outer edges,
a second of said plurality of recesses has dimensions in two directions transverse to each other each of which is greater than the dimensions of said shorter outer edges of said one recess.
16. The lid of claim 1, wherein:
said plurality of recesses comprises at least three recesses,
said outer edges of each of two of said plurality of recesses comprise two spaced apart elongated outer edges and two spaced apart shorter outer edges,
one of said plurality of recesses has dimensions in two directions transverse to each other which are greater than the dimensions of said shorter outer edges of either of said two recesses.

17. The lid of claim 15, wherein:

said member of said lid is a solid member molded solely from a plastic material,

said upper side comprises an upper surface,

an upper recess formed in said upper surface of said lid at least partially in alignment with said second recess.

18. A lid for a utility box, comprising:

a compression molded solid member made only of plastic material and having spaced apart upper and lower sides and an outer edge,

said outer edge comprising a first pair of spaced apart outer edges which face in opposite directions from each other outward from said member and a second pair of spaced apart outer edges which face in opposite direction from each other outward from said member,

said first pair of outer edges being transverse to said second pair of opposite edges,

said lower side comprising a lower surface which extends to and is contiguous with said first and second pairs of outer edges,

a plurality of spaced apart recesses formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

one of said recesses comprising two spaced apart elongated edges and two spaced apart shorter edges,

said lower surface having a given side dimension along which said elongated edges extend,

the lengths of said elongated edges of said one recess are greater than one half of said given dimension of said surface,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to said upper side when said lower side is supported by means placed around a perimeter of said member.

19. The lid of claim 18, wherein:

a second of said plurality of recesses has dimensions in two directions transverse to each other each of which is greater than the dimensions of said shorter edges of said one recess.

20. The lid of claim 18, wherein:

said one recess comprises two generally flat surfaces extending along said two elongated edges respectively and which join each other along a line such that said two surfaces and a plane extending across said recess at said lower surface defines a triangle as seen in cross-sections transverse to said elongated edges with said line located between said upper and lower surfaces.

21. The lid of claim 20, wherein:

a second of said plurality of recesses has dimensions in two directions transverse to each other each of which is greater than the dimensions of said shorter edges of said one recess.

22. The lid of claim 21, wherein:

said line has opposite ends,

said one recess comprises two triangular shaped surfaces extending from said shorter edges to said opposite ends of said line respectively such that, said two triangular shaped surfaces extend away from each other from said opposite ends of said line to said shorter edges respectively.

23. A lid for a utility box, comprising:

a compression molded solid member made only of a single type of plastic material and having spaced apart upper and lower sides and an outer edge,

said outer edge comprising a first pair of spaced apart outer edges which face in opposite directions from each other outward from said member and a second pair of spaced apart outer edges which face in opposite direction from each other outward from said member,

said first pair of outer edges being transverse to said second pair of opposite edges,

said lower side comprising a lower surface which extends to and is contiguous with said first and second pairs of outer edges,

first and second spaced apart recesses, generally parallel to each other, formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

each of said first and second recesses comprising two spaced apart elongated edges and two spaced apart shorter edges with two generally flat surfaces extending along said two elongated edges respectively and which join each other along a line such that said two surfaces and a plane extending across said recess at said lower surface define a triangle as seen in cross-sections transverse to said elongated edges with said line located between said upper and lower surfaces,

the dimensions of said lower surface between said first and second spaced apart recesses being greater than the dimensions of said shorter edges of either of said first and second recesses,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of said member.

24. The lid of claim 23, comprising:

a third recess formed in said lower surface spaced from said first and second recesses and from said outer edge of said lower surface and having dimensions in two directions transverse to each other each of which is greater than the dimensions of said shorter edges of either of said first and second recesses.

25. A lid for a utility box, comprising:

a compression molded solid member made only of a single type of plastic material and having spaced apart upper and lower sides and an outer edge,

said outer edge comprising a first pair of spaced apart outer edges which face in opposite directions from each other outward from said member and a second pair of spaced apart outer edges which face in opposite direction from each other outward from said member,

said first pair of outer edges being transverse to said second pair of opposite edges,

said lower side comprising a lower surface which extends to and is contiguous with said first and second pairs of outer edges,

a plurality of spaced apart recesses formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

one of said recesses comprising two spaced apart elongated edges and two spaced apart shorter edges,

a second of said plurality of recesses has dimensions in two directions transverse to each other each of which is greater than the dimensions of said shorter edges of said one recess,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to said upper side when said lower side is supported by means placed around a perimeter of said member.

26. A lid for a utility box, comprising:

a compression molded solid member made only of a single type of plastic material and having spaced apart upper and lower sides and an outer edge,

said outer edge extends around said member next to said lower side and which faces outward of said member,

said lower side comprising a lower surface which is contiguous with said outer edge at least on two opposite sides of said outer edge,

at least one recess formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said one recess being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

said one recess comprising two spaced apart elongated edges and two spaced apart shorter edges with two generally flat surfaces extending along said two elongated edges respectively and which join each other along a line such that said two surfaces and a plane extending across said recess at said lower surface define a triangle as seen in cross-sections transverse to said elongated edges with said line located between said upper and lower surfaces,

said lower side having a given dimension along which said elongated edges of said recess extend,

the lengths of each of said elongated edges are equal to a substantial portion of the length of said given dimension,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the

lower side is supported by means placed around a perimeter of said member.

27. The lid of claim 26, wherein:

said line has opposite ends,

said recess comprises two triangular shaped surfaces extending from said shorter edges to said opposite ends of said line respectively such that said two triangular shaped surfaces extend away from each other from said opposite ends of said line to said shorter edges respectively.

28. The lid of claim 26, wherein:

the lengths of each of said elongated edges of said recess are greater than one half of said given dimensions.

29. The lid of claim 27, wherein:

the lengths of each of said elongated edges of said recess are greater than one half of said given dimensions.

30. The lid of claim 26, comprising:

a second recess formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said second recess has dimensions in two directions transverse to each other which are greater than the dimensions of said shorter edges of said one recess.

31. A lid for a utility box, comprising:

a compression molded solid member made only of a single type of plastic material and having spaced apart upper and lower sides and an outer edge,

said outer edge comprising a first pair of spaced apart outer edges which face in opposite directions from each other outward from said member and a second pair of spaced apart outer edges which face in opposite direction from each other outward from said member,

said first pair of outer edges being transverse to said second pair of opposite edges,

said lower side comprising a lower surface which extends to and is contiguous with said first and second pairs of outer edges,

first and second spaced apart recesses, generally parallel to each other, formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the material and hence the quality of the lid,

each of said first and second recesses comprising two spaced apart elongated edges and two spaced apart shorter edges with two generally flat surfaces extending along said two elongated edges respectively and which join each other along a line such that said two surfaces and a plane extending across said recess at said lower surface define a triangle as seen in cross-sections transverse to said elongated edges with said line located between said upper and lower surfaces,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the

lower side is supported by means placed around a perimeter of said member.

32. The lid of claim 31, wherein:

each of said lines has opposite ends,

each of said recesses comprises two triangular shaped surfaces extending from its said shorter edges to said opposite ends of its said line respectively such that said two triangular shaped surfaces extend away from each other from said opposite ends of said line to said shorter edges respectively.

33. The lid of claim 31, wherein:

the lengths of each of said elongated edges of said recess are greater than one half of said given dimension.

34. The lid of claim 32, wherein:

the lengths of each of said elongated edges of said recess are greater than one half of said given dimension.

35. The lid of claim 31, comprising:

a second recess formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said second recess has dimensions in two directions transverse to each other which are greater than the dimensions of said shorter edges of said recesses.

36. (Cancelled)

37. The lid of claim 1, wherein:

said member of said lid is molded solely from a single type of plastic material.

38. (Cancelled)

39. The lid of claim 5, wherein:

said member of said lid is molded solely from a single type of plastic material.

40. The lid of claim 18, wherein:

said member of said lid is molded solely from a single type of plastic material.

41. (Cancelled)

42. The lid of claim 23, wherein:

said plastic material has a density range of .938-.942 .

43. (Cancelled)

44. The lid of claim 25, wherein:

said plastic material has a density range of .938-.942.

45-57 (Cancelled)

58. A lid for a utility box comprising:

a compression molded solid member made only of a plastic material and having spaced apart upper and lower sides and an outer edge,

said lower side comprising a lower surface,

a plurality of spaced apart recesses having outer edges at said lower surface which are spaced from said outer edge of said member such that said lower surface surrounds said outer edges of said recesses,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

each of said recesses comprises a surface which extends from its said outer edges into said member,

the area of said lower surface being greater than the total area surrounded by said outer edges of said recesses,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of said member.

59. A lid for a utility box, comprising:

a compression molded solid member made only of a compressed plastic material and having spaced apart upper and lower sides and an outer edge,

said lower side comprising a lower surface,
a plurality of spaced apart recesses having outer edges at said lower surface which are spaced from said outer edge of said member such that said lower surface surrounds said outer edges of said recesses,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

each of said recesses comprises a surface which extends from its said outer edges into said member,

said outer edges of each of said recesses comprise two spaced apart elongated outer edges and two spaced apart shorter outer edges,

said elongated edges of said recesses are generally parallel with each other,

said member has a given dimension along which said elongated edges of said recesses extend,

the lengths of said elongated edges of said recesses are greater than one half of said given dimension of said member,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to said upper side when said lower side is supported by means placed around a perimeter of said member.

60. A lid for a utility box, comprising:

a compression molded solid member made only of a compressed plastic material and having spaced apart upper and lower sides,

said lower side comprising a lower surface having an outer edge,

a plurality of spaced apart recesses formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

one of said recesses comprising two spaced apart elongated edges and two spaced apart shorter edges,

said lower surface having a given side dimension along which said elongated edges extend,

the lengths of said elongated edges of said one recess are greater than one half of said given dimension of said surface,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to said upper side when said lower side is supported by means placed around a perimeter of said member.

61. A lid for a utility box, comprising:

a compression molded solid member made only of a compressed plastic material and having spaced apart upper and lower sides,

said lower side comprising a lower surface having an outer edge,

first and second spaced apart recesses, generally parallel to each other, formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

each of said first and second recesses comprising two spaced apart elongated edges and two spaced apart shorter edges with two generally flat surfaces extending along said two elongated edges respectively and which join each other along a line such that said two surfaces and a plane extending across said recess at said lower surface define a triangle as seen in cross-sections transverse to said elongated edges with said line located between said upper and lower surfaces,

the dimensions of said lower surface between said first and second spaced apart recesses being greater than the dimensions of said shorter edges of either of said first and second recesses,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of said member.

62. A lid for a utility box, comprising:

a compression molded solid member made only of a compressed plastic material and having spaced apart upper and lower sides,

said lower side comprising a lower surface having an outer edge,

a plurality of spaced apart recesses formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

one of said recesses comprising two spaced apart elongated edges and two spaced apart shorter edges,

a second of said plurality of recesses has dimensions in two directions transverse to each other each of which is greater than the dimensions of said shorter edges of said one recess,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to said upper side when said lower side is supported by means placed around a perimeter of said member.

63. A lid for a utility box, comprising:

a compression molded solid member made only of a compressed plastic material and having spaced apart upper and lower sides,

said lower side comprising a lower surface having an outer edge,

at least one recess formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said one recess being formed during the molding process to enhance curing of the plastic material and hence the quality of the lid,

said one recess comprising two spaced apart elongated edges and two spaced apart shorter edges with two generally flat surfaces extending along said two elongated edges respectively and which join each other along a line such that said two surfaces and a plane extending across said recess at said lower surface define a triangle as seen in cross-sections transverse to said elongated edges with said line located between said upper and lower surfaces,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of said member.

64. The lid of claim 63, wherein:

said lower side has a dimension along which said elongated edges extend,

the lengths of each of said elongated edges are equal to a substantial portion of the lengths of said given dimension.

65. A lid for a utility box, comprising:

a compression molded solid member made only of a compressed plastic material and having spaced apart upper and lower sides,

said lower side comprising a lower surface having an outer edge,

first and second spaced apart recesses, generally parallel to each other, formed in said lower surface and spaced from said outer edge of said lower surface and from said upper side,

said recesses being formed during the molding process to enhance curing of the material and hence the quality of the lid,

each of said first and second recesses comprising two spaced apart elongated edges and two spaced apart shorter edges with two generally flat surfaces extending along said two elongated edges respectively and which join each other along a line such that said two surfaces and a plane extending across said recess at said lower surface define a triangle as seen in cross-sections transverse to said elongated edges with said line located between said upper and lower surfaces,

said member of said lid has the strength sufficient to withstand a load of at least 8,000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of said member.

66. A lid for a utility box, comprising:

a compression molded solid member made only of compressed plastic material having upper and lower sides and an outer edge;

a plurality of spaced apart recesses located in the lower side, the recesses having a depth which is the distance the recesses extend toward the other side;

the member having a thickness between the upper and lower side;

the depth of the recesses being no greater than two-thirds of the member thickness;

the member of the lid having the strength sufficient to withstand a load of at least 8000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of the member.

67. The lid of claim 66 wherein the member thickness is at least one and one-half inches.
68. The lid of claim 66 wherein the recesses are first recesses, the lid further comprising at least one remote reading equipment recess located in the lower side.
69. A lid for a utility box, comprising:
 - a compression molded solid member made only of compressed plastic material having upper and lower sides and an outer edge;
 - the lower side comprising a lower surface that is contiguous with portions of the outer edge;
 - a plurality of spaced apart recesses located in the lower side, the recesses having a depth which is the distance the recesses extend toward the upper side;
 - at least some of the recesses being spaced apart from adjacent recesses by a distance that is greater than the depth of the respective recesses;

the member of the lid having the strength sufficient to withstand a load of at least 8000 pounds applied to the upper side when the lower side is supported by a means placed around a perimeter of the member.

70. The lid of claim 69 wherein the member thickness is at least one and one-half inches.

71. A lid for a utility box, comprising:

a compression molded solid member made only of compressed plastic material having upper and lower sides and an outer edge;

the lower side comprising a lower surface that is contiguous with portions of the outer edge;

a plurality of spaced apart recesses located in the lower side, the recesses having a depth which is the distance the recesses extend toward the upper side;

the member having a thickness between the upper and lower sides of at least one and a half inches;

the member of the lid having the strength sufficient to withstand a load of at least 8000 pounds applied to the upper side when the lower side is supported by means placed around a perimeter of the member.

72. A lid for a utility box, comprising:

a compression molded solid member made only of compressed plastic material having spaced apart upper and lower sides,

the lower side comprising a lower surface having an outer edge,
at least one recess formed in the lower surface and spaced from
the outer edge of the lower surface and from the upper side,

the one recess formed during the molded process to enhance
curing of the plastic material and hence the quality of the lid,

said member of said lid has the strength sufficient to withstand
a load of at least 8,000 pounds applied to the upper side when the
lower side is supported by means placed around a perimeter of said
member.

73. The lid of claim 72 wherein the member thickness is at least one and one half inches.
74. The lid of claim 72 wherein the recess is a remote reading equipment recess.
75. The lid of claim 72 wherein the member of the lid has the strength sufficient to withstand a load of at least 9,000 pounds applied to the upper side when the lower side is supported by means placed around the perimeter of the member.

EVIDENCE APPENDIX



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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 In Re Application of
 Robert McKinnon, Jr.
 Serial No. 09/579,630
 Filed: May 26, 2000
 Title: Meter Box Lid
 -----X



:
 Examiner: N. Eloshway
 Art Unit: 3727
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DECLARATION

I am the inventor of the above identified patent application. Attached are photographs of two of the elongated lids disclosed in the application. Exhibits A and B are plan views of the bottom and top respectively of a shorter rectangular lid and Exhibit C is a perspective view of the bottom of the lid. This lid corresponds with the lid of Figs. 1 and 2 of the application. Exhibit D and E are plan views of the bottom and top respectively of an elongated rectangular lid and Exhibit F is a perspective view of the elongated rectangular lid. This lid corresponds with the lid of Figs. 5 and 6 of the application. The lids of the application all have recesses which allows thick and strong lids to be formed of plastic as pointed out in the application. The slanted angular surfaces of the elongated recesses act to give support to pressure or loads applied to the tops of the lids and hence contribute to the formation of very strong plastic lids.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any resulting patent.

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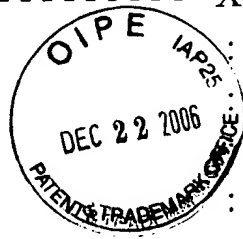
Date

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Robert McKinnon Jr.
 Name: Robert McKinnon, Jr.

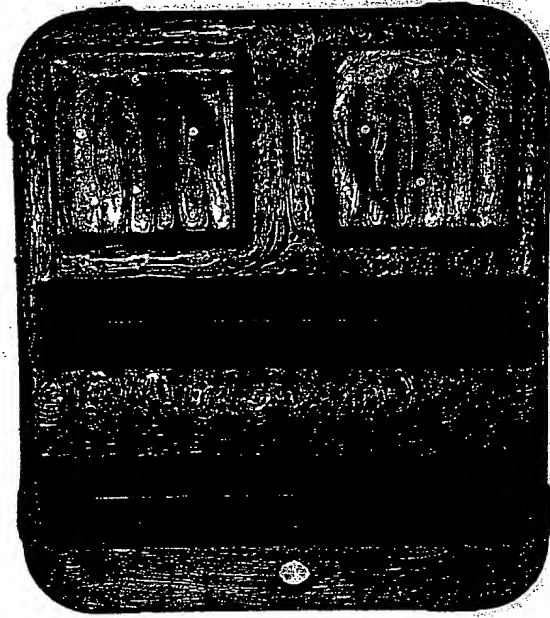
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Robert McKinnon, Jr.
Serial No. 09/579,630
Filed: May 26, 2000
Title: Meter Box Lid
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Examiner: N. Eloshway
Art Unit: 3727

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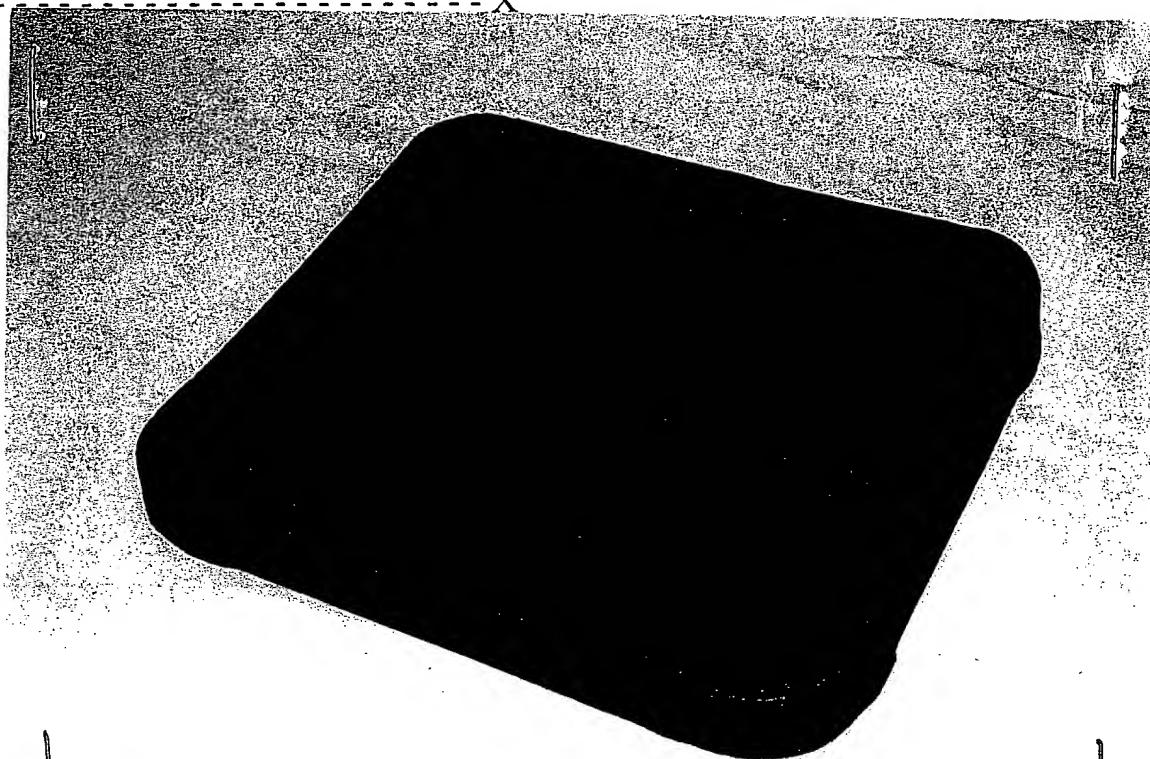
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Examiner: N. Eloshway

Art Unit: 3727

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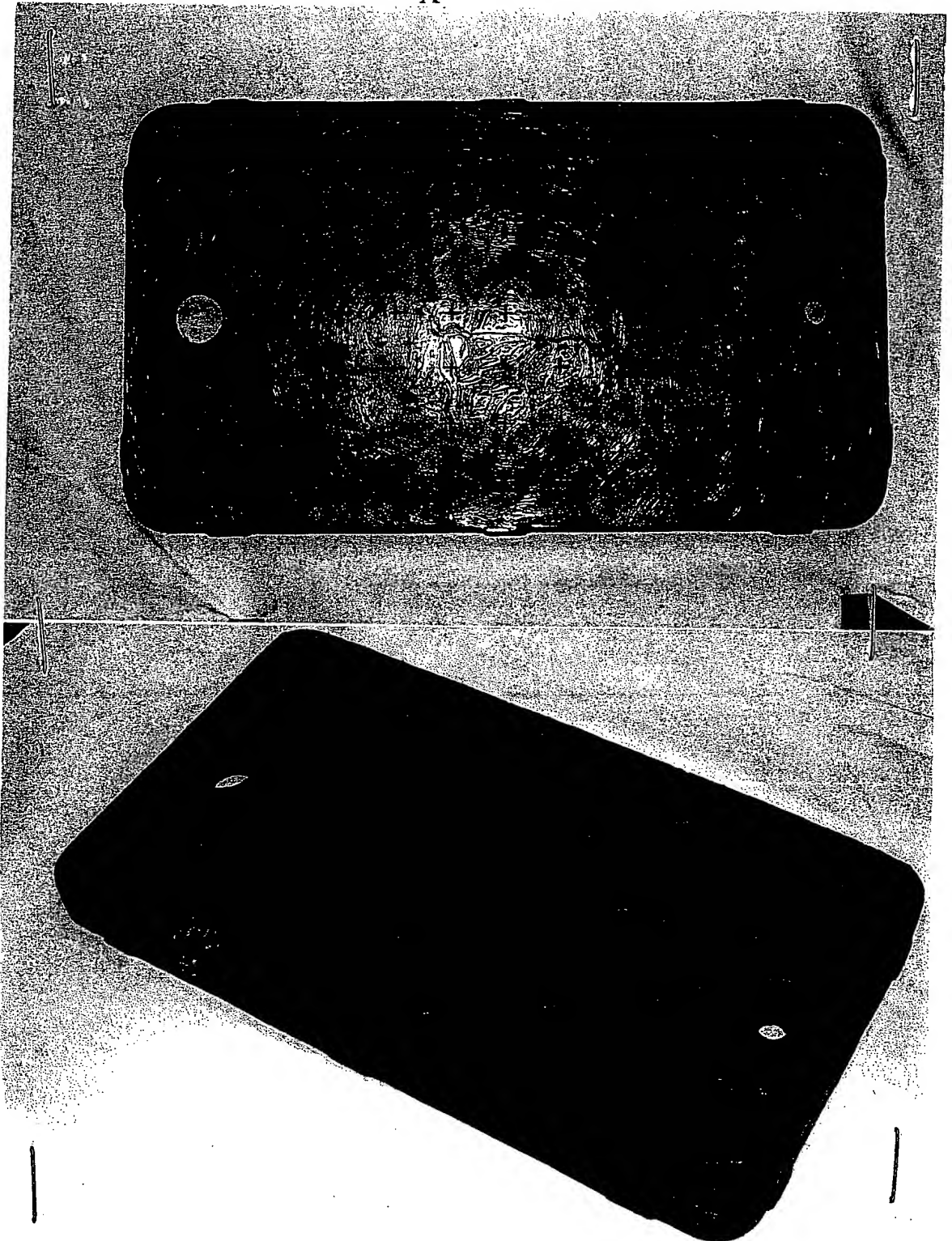
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In Re Application of
Robert McKinnon, Jr.
Serial No. 09/579,630
Filed: May 26, 2000
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Examiner: N. Eloshway
Art Unit: 3727

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Docket No. 5925.36003

PATENTS
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In Re Patent Application Of	:	
Robert McKinnon, Jr.	:	Examiner: N. Elishway
Serial No. 09/579,630	:	
Filing Date: May 26, 2000	:	Group Art Unit: 3727
"METER BOX LID"	:	
-----X		

DECLARATION OF ROBERT MCKINNON, JR.

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

1. I am Robert McKinnon, Jr., the inventor of the subject patent application. I am over 21 years of age and am competent to make this declaration.
2. My family owns DFW Plastics, Inc., the assignee of this application. My father, Robert McKinnon, has been involved in plastics manufacturing since the 1970's. DFW Plastics has manufactured plastic utility boxes and lids since the 1970's.
3. I graduated from high school and began working in construction. I was in construction for 18 years. During that time, I operated backhoes, was a crew chief and owned my own company. I installed utility boxes and lids. I saw what various cities required. Most utility boxes and lids are bought by cities. I saw what type of utility boxes and lids worked and did not work. Cities only buy utility boxes and lids that meet their specifications. After

construction, I then worked in the oil field for 6 years where I laid pipeline and installed tank batteries.

4. For the last 12 years, I have been employed by DFW Plastics where I am manager of the manufacturing plant. I oversee manufacturing and design new products and manufacturing processes for plastic utility boxes and lids. I design molds and work with different types of plastic under different molding conditions. I am familiar with various types of plastic manufacturing such as injection molding, compression molding, rotational molding and blow molding. Over the years, I have discussed plastic manufacturing with my father as well, tapping into his experience.

5. The invention is on lids for utility boxes, such as water meter boxes. Utility boxes are buried in the ground, with the tops of the boxes near or at ground level. The lids cover the boxes and the meters inside. As an example, a water meter box contains a water meter that is tied into the water line entering a building like a house or a business.

6. The lids are subject to high loads. The lids and their utility boxes can be located in driveways and alleys, where vehicles run over the lids. The lids can also be stepped on by people.

7. Before my invention, lids for utility boxes were made of cast iron. These lids typically have a load strength of 10,000 pounds or more. That is, they will withstand a truck rolling over the lid without breaking. There also existed, before my invention, lids made of injection molded plastic. An injection molded plastic lid is shown in McKinnon, U.S. Patent No. 4,163,503, obtained by my father. These lids have a strength of only about 1,200 pounds. They are used in lawns and other areas known as greenbelts

or parkways where vehicles are not usually permitted. Injection molded plastic lids are not designed to withstand a truck rolling over them.

8. I began to develop a stronger plastic lid for utility boxes. If successful, the lid could compete with cast iron lids. I noticed that the existing injection molded lids had a top wall thickness of less than $\frac{1}{2}$ inch, with lots of ribbing underneath the top wall. The ribbing was in the shape of a grid and provided strength to the top wall. My first attempts were to make a rotational molded plastic lid that was thicker than the existing injection molded plastic lids. The results of my attempts produced lids that were an inch or more in thickness. The lids were solid with no ribbing. The thick rotational molded lids had warped top and bottom surfaces. The lids were not very strong due to bubbles and other imperfections inside the plastic.

9. My next attempts were to utilize compression molding. Heated plastic material was placed into a compression mold. The mold was then closed and squeezed with a compression force. The compression force squeezed bubbles and air pockets from the plastic. The lids formed a solid block over an inch in thickness. The solid compression molded lids had flat tops and bottom surfaces, which solved the warping problem. A new problem cropped up though. I discovered that the plastic inside the lids was not fully cured due to the thickness of the lids. When the lids were dropped onto a concrete surface, they broke. Dropping the lids is a simple test of strength and durability.

10. I wanted to solve the curing problem because I believed a thick solid lid would have the high strength I was looking for. My next attempts were targeted at solving the curing problem. The compression molds were

modified to create recesses or indentions in the bottom side of the lid. This would deliver heat from the mold to the plastic interior and allow curing. The results proved satisfactory and form the invention. The lids have a thickness of 1-1/2 inches or more, and because of the recesses the plastic is fully cured inside the lids. When dropped on a concrete surface, the lids do not break or even crack. The lids are strong, capable of supporting loads of 8,000 pounds, or more, even as high as 20,000 pounds. This is a big improvement over the injection molded lids. Because the lids of my invention are so strong, they can replace cast iron lids and be used in driveways, alleys and even streets. If a truck rolls over my lid, it will not break.

11. I have reviewed the following U.S. patents: Waters, U.S. Patent No. 4,488,669; Wischhusen, U.S. Patent No. 5,016,756; Bonnema, U.S. Patent No. 4,726,490; and Thornbloom, Jr., U.S. Patent No. 3,979,007. I understand that the Examiner says that my lid is not patentable because of the patents. The patents all have lids that are double wall, not solid. The lids of Waters, Wischhusen and Thornbloom are not for use on utility boxes. Waters is a lid for a tool box, Wischhusen is a food container lid and Thornbloom is an ice chest lid that is foamed for insulation. These lids are not designed for people to stand on them or trucks to roll over them. The lid of Bonnema is for a sump box, which would be buried in the ground but is mainly in basements. Bonnema even says that someone could stand on the lid. The Bonnema lid is hollow and I believe is even weaker than the existing injection molded plastic lid. Based on my experience in plastics manufacturing, I would not use the lids of Waters, Wischhusen, Bonnema or

Thornbloom for a utility box. I would not look to these patents to design a lid for a utility box. I believe these lids would be a step backward from injection molded utility box lids, not forward because they would break at under 1200 pounds.

12. I see that Thornbloom says the ice chest lid can be blow molded or solid. Based on my experience in plastics manufacturing, the fact that Thornbloom uses a solid lid would not lead me to a solid utility box lid. I believe that a solid lid on an ice chest would be thin to keep the weight down. The ice chest has handles, so it is designed to be picked up, with food and ice inside. I would not think to use an ice chest lid for a utility box because the ice chest lid does not need to be as strong as a utility box lid. Also, I would think that the solid lid in Thornbloom would have air bubbles. Air bubbles would provide insulation, but would decrease the lid strength.

13. None of the patents teach compression molding a lid for a utility box. The Waters lid is double-walled probably to be light in weight. It cannot be compression molded. The Wischhusen lid is double-walled with foam inside. It cannot be compression molded. The Bonnema lid is double-walled and is probably blow molded or rotational molded. It cannot be compression molded. The Thornbloom patent does not say how to make a solid lid. Based on my experience in plastic manufacturing, I would not look to these patents to design a compression molded lid.

14. Because the patents do not have compression molded lids for utility boxes, none of the patents care about curing the plastic. All of the patents show lids with thin walls of plastic. The patents do not face the problem of how to cure plastic in a thick member. Some of the patents do show

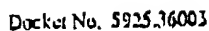
recesses, but not for the same purpose as my recesses. The lid of Waters has indentations 40 where the double walls are stitched together for strength. I am familiar with stitching together plastic walls for strength. I believe that stitching double walls together would not produce a satisfactory lid for a utility box and is different from my lid. Stitching walls together proves that the lid has hollow spaces and is not solid. My lid is solid. The Wischhusen lid has recesses for food containers. None of the patents solve the problem of how to cure plastic in thick members. Based on my experience, I would not look to the patents to design a compression mold lid of high strength for utility boxes.

15. I hereby declare that all statements made herein of my own personal knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any resulting patent issuing thereon.

2/12/04
Date

Robert McKinnon Jr.
By: Robert McKinnon, Jr.

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PATENTS

**In Re Patent Application Of
Robert McKinnon, Jr.
Serial No. 09/579,630
Filing Date: May 26, 2000
"METER BOX LTD"**

Examiner: N. Eloshtay

Group Art Unit: 3727

DECLARATION OF ROBERT MCKINNON, JR.

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

1. I am Robert McKinnon, Jr., the inventor of the subject patent application. I am over 21 years of age and am competent to make this declaration.

2. This declaration supplements my earlier declarations of October 5, 2001 and February 12, 2004 in this patent application. I continue to be employed by DFW Plastics, Inc., assignee of this application, and am manager of its manufacturing plant. I continue to be familiar with various types of plastic manufacturing, such as injection molding, compression molding, rotational molding and blow molding and am also familiar with vacuum form molding.

3. I wanted to make a plastic lid that satisfied certain ratings. Many customers, such as cities, who buy utility box lids, require the lids to meet certain ratings or specifications. One rating is H-10, which requires a lid to

hold a load of 8000 pounds. Another rating is H-20, which requires a lid to hold a load of 16,000 pounds. ASTM-C-857-95 applies.

4. I knew that a lid that met a rating of H-10 could not commercially be made by injection molding, vacuum form molding (also known as thermo molding) or blow molding. Each of these types of molding introduces technical problems in the molds and plastic resins. To make a lid that met the H-10 rating, by injection molding, the lid would require glass fibers or structural foam. An injection molded lid that met the H-10 rating would not be feasible.

5. I considered and experimented with compression molding to make a lid that met the H-10 rating. A compression mold has two parts. For example, one mold part has a female component which is a cavity shaped like the product. The other mold part has a male component that closes the cavity. When the cavity is open, the plastic is placed into the cavity. The plastic that is placed into the open cavity is usually a sheet or plastic mat. The plastic is heated before being placed into the cavity. When the cavity is closed, the plastic is compressed between the two mold parts. The compressed plastic is squeezed into all places in the mold cavity and any air bubbles are squeezed out. The plastic is stamped and has no undercuts. Undercuts would mean that the plastic, once molded by compression, could not be removed from the mold.

6. Before my invention, compression molding was widely used to make relatively thin products. Before my invention, the thickest wall that I saw in a compression molded product was about one-fourth of an inch. Compression molding is an inexpensive way to make products that have

some curve or bend, such as on an automobile bumper. A bumper may have both plastic and metal pieces. The plastic pieces can be compression molded.

7. As I learned from my experimentation with compression molding, if the plastic part is too thick, it is brittle and will not hold the desired load. I considered using glass fibers in the plastic to provide reinforcement, but decided against it.

8. As far as I know, I am the first to utilize compressed plastic in a utility box lid that is capable of withstanding a load of at least 8,000 pounds. To make a lid of that strength, a thick lid is needed. I have found compressed plastic of relatively large wall thickness to be satisfactory. Because of the wall thickness, which is larger or thicker than with traditional compression molded products, I had to make modifications. I did not make the modification of adding glass fiber. Instead, the lid is solid, all plastic, with recesses to allow proper curing of the plastic. As far as I know, I am the first person to make a compression molded lid of all plastic of such strength.

9. I am aware that the Examiner has said the claims, which define the invention, are not patentable because of the prior patents to Hauffe, Marthaler, Goodwin and Bonnema. I have read and understand the patents to Hauffe, Marthaler and Goodwin. Hauffe has a plastic injection molded lid on a meter box. I am familiar with injection molded lids for meter boxes. As I previously mentioned, my father had a patent on an injection molded lid, U.S. Patent No. 4,163,503. I considered these lids when I set out to design a stronger lid. The plastic injection molded lids have a load strength of about 1,200 pounds. That is, the lid will break if they support 1,200

pounds or more in weight. After reading and looking at Hauffe, I do not see anything that will tell me that the Hauffe lid is any stronger than the injection molded lids I am already familiar with. I would not look to injection molded lids to develop or make a lid with an 8,000 pound rating.

10. The Marthaler patent shows a storage box for computer media, such as compact discs. The box has a housing and a lid. These parts can be made by several different types of molding. The only practical way to make the Marthaler housing and lid is by injection molding. Even though the Marthaler patent says it can use compression molding, this is not true. The housing and lid have undercuts. Once the part is molded, it cannot be removed from the compression mold because of the undercuts. Examples of undercuts are pegs 82 and 84 in Fig. 4, the bores 132 in Fig. 10 that match with the pegs and the latch 179 in Fig. 24. The housing and lid are not blow molded. Blow molding means that gas is blown into a slug of plastic, causing the plastic to expand out into a mold. An example of a blow molded product is a plastic bottle, which is hollow inside. If the housing and lid were blow molded, the housing and lid would have hollow space inside. Thermo molding is where a sheet of heated plastic is pulled down over a mold or form. The undercuts mean that thermo molding is not practical.

11. The Marthaler patent does not tell me any reason why I would use compression molding instead of injection molding, blow molding or thermo molding to make the housing with. At the time of my invention, I would not have looked at the Marthaler patent for guidance on making a lid using compression molding instead of injection molding. The wall thickness of the Marthaler lid looks too thin for what I was trying to accomplish. The

Marthaler patent tells me nothing about making a strong lid, capable of withstanding 8,000 pounds of load, with compression molding. I would not have looked to either Hauffe or Marthaler to make the lid. I would not have looked to Hauffe or Marthaler to make an all plastic lid capable of withstanding a load of 8,000 pounds with any kind of compression molding.

12. The Goodwin patent is a blow molded lid that has recesses. A blow Molded lid is weaker than an injection molded lid. I would not look to the Goodwin lid to make the Hauffe lid stronger.

13. I hereby declare that all statements made herein of my own personal knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any resulting patent issuing thereon.

2/10/06

Date

Robert McKinnon, Jr.

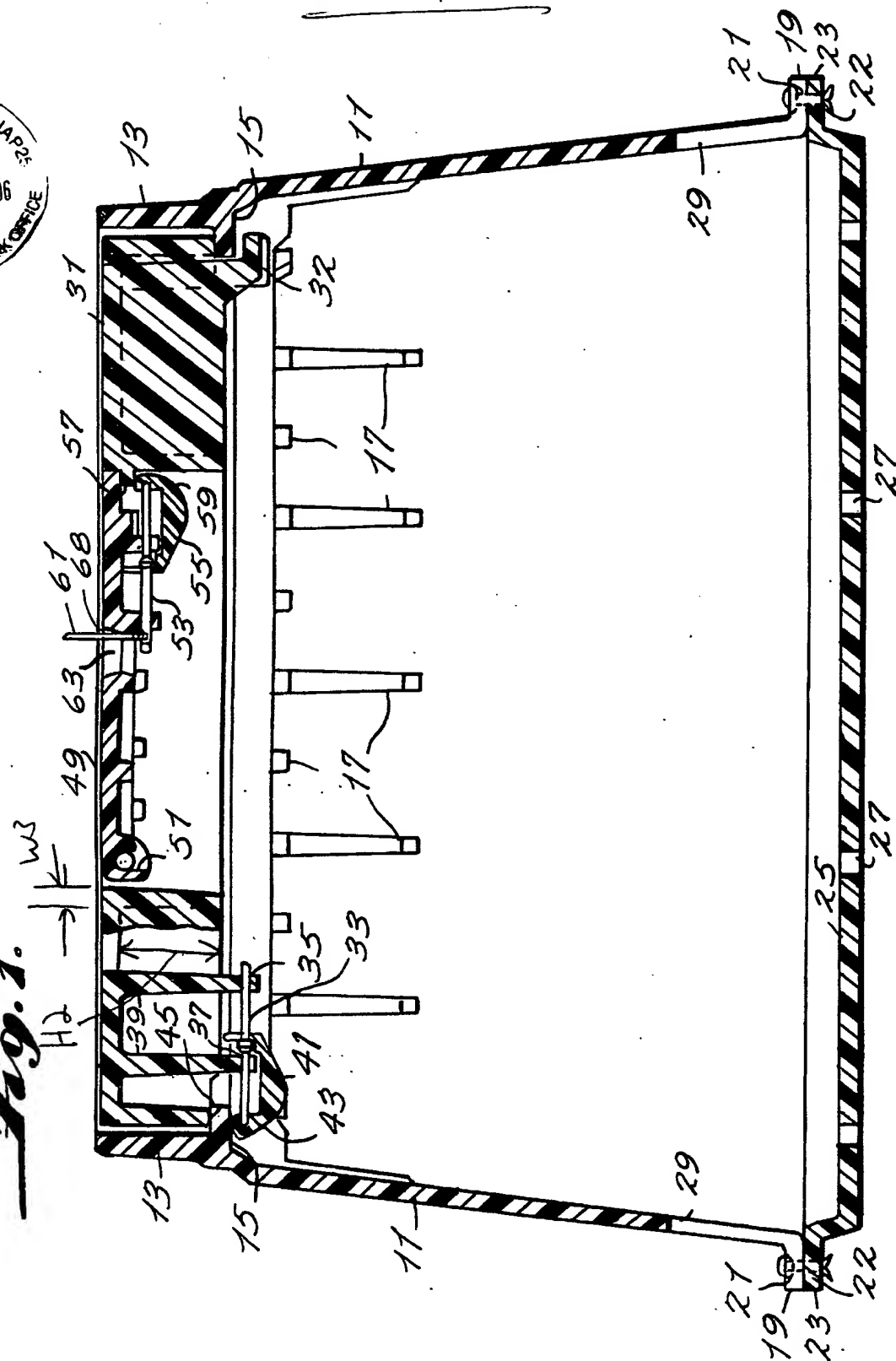
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Fig. 1.



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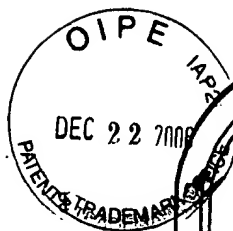


Fig. 2.

